DOCUMENT RESUME

ED 122 731 IR 003 311

AUTHOR Adler, Richard
TITLE The Humanistic Claim on the Cable. Workshop on Uses of the Cable.
INSTITUTION Aspen Inst. for Humanistic Studies, Palo Alto, Calif. Program on Communications and Society.
PUB DATE 73
NOTE 69p.

EDRS PRICE MF-$0.83 HC-$3.50 Plus Postage
DESCRIPTORS Broadcast Industry; *Cable Television; *Conference Reports; *Educational Television; *Humanistic Education; *Programing (Broadcast); Public Television; Television Curriculum
IDENTIFIERS *Federal Communications Commission

ABSTRACT

In recent years, the cable television industry has been marked by prolific growth both in the number of stations and in the number of subscribers, and its legitimacy has been affirmed by a Supreme Court decision which placed the industry under the control of the Federal Communications Commission, (FCC) but the full potential of cable television has not been attained or even fully discussed. A conference sponsored by the Aspen Program on Communications and Society addressed the role cable television could play in humanistic education. Topics of discussion were: (1) present humanistic uses of television, (2) the arts and humanities on television, (3) cultural and documentary programs, (4) television teaching inside the classroom, (5) television teaching outside the classroom, (6) television-based educational services, and (7) the limits of public television. Also discussed were the relations between the cable television industry with the FCC, with local broadcasters, and with educators. (EMH)

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THE HUMANISTIC CLAIM ON THE CABLE

Richard Adler

Workshop on Uses of the Cable

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Library of Congress Catalog Card Number LC-73-85929

I think television should be the visual counterpart of the literary essay, should arouse our dreams, satisfy our hunger for beauty, take us on journeys, enable us to participate in events, present great drama and music, explore the sea and the sky and the woods and the hills. It should be our Lyceum, our Chautauqua, our Minsky's and our Camelot. It should restate and clarify the social dilemma and the political pickle. Once in a while it does, and you get a quick glimpse of its potential.

E. B. White

Every broadcast is a moral act.

John Scupham

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INTRODUCTION

The first Community Antenna Television (CATV) system was built only a few years after the beginning of commercial broadcast television in the United States. For some two decades after that, CATV systems spread steadily in reception-poor areas, providing better quality signals and additional channels to their subscribers. Until recently this growth was accompanied by little public interest outside of the communities directly affected by CATV. Of late, however, cable has become a subject of widespread interest, as witnessed by the growing number of reports, newspaper and magazine articles, books, conferences, as well as regulatory studies and investment analyses, devoted to the subject.

What has been responsible for this sharp increase in interest in cable? An important factor has been simply growth in the number of cable systems and subscribers. From a single system in 1948, cable had reached a million homes via 1,000 systems by 1963. Today 2,750 systems have wired some 6 million homes - or over 9 per cent of all television households in the United States. And according to the National Cable Television Association, approximately 80,000 new subscribers to cable are being added every month, nearly one million each year.

A second factor has been an increased awareness and concern for the effects of television - for both good and ill - on society. Spurred by Marshall McLuhan's announcement in

Understanding Media (1964) that television and other new technologies "create a totally new human environment," we have been discovering how pervasive the influences of television have become. The National Commission on Civil Disorders, on the Causes and Prevention of Violence, consumer groups, political activists, and the Vice-President all have recognized that television is deeply involved with their concerns. The question all of them face is for what purposes shall television be used, and who shall have the power to decide?

The third factor contributing to interest in cable is the perception of its central role in a more general "communications revolution." Powerful new means for recording and manipulating information - the computer, xerography, microfilming - are now widely available, along with new means for instantaneous transmission - microwave, lasers, satellites. And the coaxial cable, with its great capacity, seems the likeliest candidate to tie them together and make them accessible to our homes. Thus, "cable" is now the preferred term, rather, than CATV, reflecting the increase expectations from this new medium. In the words of the Sloan Commission report, "If cable technology proves indeed to be the heart of a communications revolution, its impact on society's most immediate needs might be enormous."[1]

This, at least, is the promise of the "wired nation." In fact cable television today is still primarily a reception service for broadcast television signals. Thus, the rise in

interest in cable is based not on a significant change in cable service, but in the nature of the thinking about cable. It does seem clear that if cable is to continue to grow, especially in the "top markets" where the greatest part of the population lives (and where off-the-air recpetion is generally good), cable services must be diversified. The future of cable will almost certainly be significantly different from its past history.

How much do we know now about this future? An important guide to the near-term development of cable was provided this spring by the FCC Rules Governing Cable Television Service. They spell out in some detail technical and procedural specifications, and indicate what new cable system will and will not be permitted to do. These rules (coupled with the Supreme Court's affirmation of the FCC's authority to regulate cable) establish a strong federal presence in shaping cable's growth. While not wholly satisfactory to any of the parties they affect, the rules are a major landmark in cable's development. If nothing else, the great concern the rules display for protecting the interests of broadcast television demonstrates the rulemaker's recognition of cable's potential significance. These rules will be discussed in greater detail below.

In addition to the FCC Rules, the past few years have seen the literature on cable television grow at an even faster rate than the cable systems themselves. Much of

it is in the form of generalized introductions to cable. They typically relate the history of its growth ("from the hills of Oregon and Pennsylvania..."), provide primers of cable technology, and recount the benefits which cable is expected to provide. Part of this has been simple propaganda, in the form of slide shows, films, pamphlets, and speeches, from the industry itself. More useful have been critical studies like Ralph Lee Smith's pioneering The Wired Nation[2] and handbooks produced by various public interest groups and associations. The Sloan Commission report called attention to the growing importance of cable and provided a useful focal point for public discussion. Publications like Schools and Cable Television from the National Education Association, Cable Television and the Cities from the Urban Institute, and Cable Television: A Guide for Citizen Action from the United Church of Christ, all attempt to alert their constituencies about their stake in the coming of cable.[3] Municipal officials, faced with the responsibility of granting cable franchises, are the intended audience for the publications distributed by the Cable Television Information Center.

These publications all share a sense of urgency about the need for informed public participation in the development of cable. The opening words of the NEA booklet are typical:

> In more than a thousand communities across the United States, municipal officials are facing decisions on applications for cable television...franchises. Much is at stake now in granting these franchises not only

> for CATV operators but also for schools, cities, and, in fact, the entire nation. Gradually emerging is not only the redesign of tomorrow's television, but also an entirely new telecommunications system to serve our cities and our nation.

Perhaps. Although we can recount how cable has developed and speculate about what it might become, the future path is still uncertain. This is particularly true of cable's development in the urban centers of America, where cable penetration has yet to reach 2 per cent of the population. According to TV Communications, a cable trade publication:[4]

> The real shape of CATV in the nation's cities is still wholly undetermined. Nobody, including the industry's top MSO (multiple system operators) executives, knows exactly what operations will be like ten years from now in our wired nation. The industry has very little idea of the economic feasibility of the many things it will be able to do.

The Aspen Workshop on Uses of the Cable

The excitement which cable television has aroused from public interest groups is based on the hope that it will contribute significantly to solving some of our society's most pressing problems and to enhancing the quality of life in America. Most of the discussions of cable to date, however, have concentrated on questions of technology, regulation, industry structure, federal/state/local roles, and projections of the industry's growth. Comparatively little thought has been given to what real differences cable will make in people's lives.

If the hopes cable has raised are to be realized - even in part - its development must be planned with careful attention to its social benefits and consequences, not merely to economic and technolological exigencies. The time for such planning is now. Once the systems reach maturity it will be immensely more difficult to correct the mistakes of the past. The Aspen Cable Workshop was established to identify and promote uses of cable television in the public interest. The goal of the Workshop is to address, in turn, crucial issues in the development of cable; to bring together educators and entrepreneurs, artists, humanists, and political leaders to deal with these issues; and finally to find ways of implementing the results of these forums.

The First Workshop Conference

Humanistic programming, as described in this paper, cuts across the boundary lines by which television programming is usually categorized. Traditionally we classify programs as entertainment (drama, comedy, sports), public affairs (news, important events, documentary), or instructional. While programming in any of these categories could have humanistic values, the significant fact is that it rarely does.

Television in this country has been content to engage merely the attention of its audience; the larger the audience, however minimal its attention, the more successful the program. Programming of humanistic value must engage not only the attention, but the mind - and even the spirit - of its audience.

Its objective is not simply to provide diversion and immediate information, but to challenge and expand the viewer's perceptions and provide him the means to enrich his life.

Our choice of this subject is based on the belief that a primary responsibility of television in a civilized society should be broadly educational, that its purpose should be, in John Scupham's words, "the maintenance, extension, and transmission of a culture." These principles have been accepted by nearly every country outside the United States: the structure and program content of the Canadian Broadcasting Corporation, the BBC, and Japan's NHK all manifest well-established commitments to television as an educational and cultural force.

American commercial television has either ignored or given passing attention at best to these responsibilities. In fact, as it has grown more prosperous, it has become more reluctant to innovate, to experiment, or to do anything which disturb the loyalties of its vast audience. Success of a "format" brings almost automatic imitation. Because of the need for continuity and predictability, one program must follow the next, day after day, consistently and without interruption. None of these conditions contributes to uniqueness or excellence.

The crucial question we now face is whether television in this country can be used in a significant way as a conveyor of programming of the highest intellectual and artistic calibre.

More specifically, can the new medium of cable television respond to a challenge which broadcast television has chosen (or forced by its own exigencies) to ignore?

Several characteristics of cable offer at least the promise of a positive answer. Most obvious is the abundance of channels which the cable provides. This capability makes available channels which can be programmed for a diversity of interests which broadcast television has not served. Less obvious but equally important is the way in which the economic structure of cable television differs from that of broadcast television. Rather than selling viewers to sponsors, cable television sells its services directly to the viewers. To be successful, cable must offer its customers more than they can get off the air for free.

What have humanists to contribute to this revolution in communications? Based on past experience, one might answer "very little". Humanists have generally turned away from television as irrelevant or antagonistic to their beliefs and values. As a result, television in this country grew into a mammoth enterprise with very little exploration of its utility for communicating man's knowledge.

The cable gives us a second - and perhaps last - chance to determine whether television can be used to teach, to inspire, to change man's life for the better. The task will be demanding and expensive. It is not certain whether it can be financially self-supporting. In the remainder of this

paper, we will explore the prospects for meeting this challenge, by considering:

1. The experience to date of humanistic programming on commercial and public television, and on television systems abroad. We will look specifically at the uses of television in the performing arts, for culturally 'educative' programs, and for instructional programming.

2. The new cable environment, as shaped by federal and local regulation, technological developments, and the entry of cable into new markets.

3. The possibilities for creating new content for cable. We will look first at the presentation of the arts and humanities on cable television, including the crucial questions of financing. Finally, we will examine the role of cable in expanding access to lifelong learning.

PRESENT HUMANISTIC USES OF TELEVISION

Whatever else may be said about television, the sheer statistics of its omnipresence in American life are stunning. Ninety-six per cent of all American homes have television receivers (over 50% now have color sets). As of September,

1970, those 60 million households "averaged 45 hours and 41 minutes of television usage a week, or over 6-1/2 hours a day." And that figure continues to rise. At the peak of prime time viewing (around 9:30 p.m.) during the winter months, the television will be on in nearly 65 per cent of all the homes in the United States.[5]

And nearly 90 per cent of those sets will be tuned to one of the three national networks. For the great majority of the population, television means the networks. Cable itself grew largely on the desire of people in remote areas for access to network programming. Similarly, Canada became the most heavily cabled country in the world by importing American network programming. Even on the independent (non-network affiliated) "local" stations, much of the programming consists of syndicated re-runs originally made for network showing.

In the Introduction, programming of humanistic value was described as engaging "not only the attention, but the mind -- and even the spirit -- of its audience. Its objective is not simply to provide diversion and immediate information, but to challenge and expand the viewer's perceptions and provide him the means to enrich his life." Such programming is, unfortunately, almost the precise antithesis of the normal content of national, commercial television.

The failings of commercial network television have been much discussed, and there is little need to dwell on them here. But it may be useful to consider the reason for these failings.

The real customers of television, for whom programming is tailored, are not the viewers, but the corporate sponsors. The producers of programming are concerned not with whether the viewer is pleased, or stimulated, or even interested in what he sees, only that he, somehow, keep watching. As Les Brown, the radio and television editor of Variety, puts it in his excellent recent analyses of the broadcast industry:[6]

> In day-to-day commerce, television is not so much interested in the business of communication, as in the business of delivering people to advertisers. People are the merchandise, not the shows. The shows are merely the bait.
>
> The consumer, whom the custodians of the medium are pledged to serve, is in fact served up.

The revenues of commercial television are based directly on the size of the audiences its programs attract. Since it is the business of broadcaseters to maximize revenues, there can be only a single criterion for evaluating the worth of a program:

> The function of the television program is to make the commercial break valuable. A good show is one that is important enough to the advertiser so that he will pay a premium for the minute breaks within; a bad show is one that sells at distress prices. Accordingly, the system thrives on The Beverly Hillbillies and will not support a Playhouse 90.

These "economic realities" of network programming have had several consequences. On the highest levels of network management, as Brown points out, men with experience in sales have replaced those with backgrounds in the procurement and

production of programming. The most visible result of this system, and the most significant to the viewers of television, is the package of programs the networks offer their audiences. Through the course of his book, Brown traces the evolution of the lineup of programs for the Fall, 1971 "season." The results of a year's research, planning, and production, representing nearly half a billion dollars in programs, consisted of:

> twenty-seven adventure melodramas, twenty-seven situation comedies, sixteen variety shows and seven movies (including ersatz movies) regularly scheduled in a week of prime time. There were also two game shows, one weekly news anthology and one monthly, and a single weekly sports feature, professional football. By network standards it was a balanced schedule, nearly 100 per cent light entertainment.

It is easy to overestimate in retrospect the achievements of the "golden age" of the early days of television. But the fact remains that there was "an abundance of original and quality drama" on television, and drama seemed an area where the promise of television seemed brightest. Not surprisingly, the reasons for this were not idealistic, but quite pragmatic. Since television was created in New York, the talent of the theater world - playwrights, directors, stage actors - as most readily available. Even more important, however, was an economic consideration: the need to sell television sets to create a market for advertising. As it turned out,[7]

> It was the only time in the history of the medium that program priorities superseded all others. If there was an abundance of original and quality drama at the time (Studio One, Philco Playhouse, Goodyear Playhouse, and later Playhouse 90), it was in large part because those shows tended to appeal to a wealthier and better-educated part of the public, the part best able to afford a television set in those years when the price of receivers was high.

In due course, television discovered the movies. By now most of the contents of Hollywood's vaults have been shown and reshown on television. But the same inexorable law of economics has kept the masterpieces of the foreign film off television, due in part to the notion that audiences would be made uncomfortable by dubbing, and certainly would not abide subtitles. Good music has probably been the most completely excluded of the arts. With rare exceptions like Leonard Bernstein's performances, and the annual Christmas operas, television has been without serious music.

There are a number of important things that network television can, and does do extremely well. Network news has become a major force in American journalism, and has profoundly affected our view of the world. Undoubtedly, television's greatest power has been its ability to "take us there" - to Moscow and Peking, to the streets of Chicago, to the funerals of dead leaders, and finally, to the moon. It has also done a remarkable job in the live coverage of sports perhaps "the highest and best use" of television.

But these spectacles, however marvelous and captivating, do little to offer meaning or understanding to individual viewers. It is not impossible, in fact, that such massive amounts of information contribute to the feelings of helplessness and passivity of individuals unable to relate these spectacles to the conditions of their own lives. Historically, it has been the role of the arts and the humanities (long before they were called that) and of liberal education to give form to our predicaments, to make sense of our chaotic, often contradictory experiences, and to give us a sense of relationship between ourselves and the society of which we are a part. If there is one central characteristic which all of these share, it is to create - if only momentarily - a sense of wholeness, of bringing into relation what has before seemed disparate.

In light of its 25 year history as a willing servant of mass culture and big business, it is logical to ask whether television is capable of fulfilling this function. To answer this question, let us look at some of the limitations of the medium and then at some successful uses of television which suggest the potential of the medium at its best.

The Arts and Humanities on Television

Several critics, in attempting to account for the absence of artistically significant programming on television, have concluded that the nature of the medium itself is accountable. Before going on to consider questions of the arts on

cable television, we should examine the arguments of two critics that the medium is innately limited in its ability to convey artistic performance.

Martin Mayer, in his book About Television, claims that the environmental context in which television is watched restricts the degree of viewer involvement with its contents, whatever it may be:[8]

> The viewing experience does seem to be more of-a-piece than the reading experience -- that is, the difference between reading a newspaper and reading a novel seems greater than the differences between looking at a televised movie and looking at a documentary. This homogenization of what ought by rights to be different experiences is the strangeness of television. Watching television is an activity that excludes doing anything else than eating and knitting. The requisite minimum level of attention is fairly high. At the same time, unlike films or plays in a properly designed theater, television pictures do not absorb the peripheral vision; and it may be the attainable maximum level of attention is fairly low. At best, the spread between minimum and maximum is much reduced from that experienced in the use of other media.

He concludes that this is a serious, but not insurmountable problem. In order to "overcome the homogenizing qualities of the medium," he contends, will require "a content so strongly different from normal programming that it probably can appeal only to minorities too small to carry the costs of production under an advertiser-supported system." This sounds like exactly the kind of service which cable could be expected to provide.

Peter Hall, the English director, also has reservations about the ability of television to present the performing arts, but his objections are much more specific. He contends that television is simply unable to "capture the original experience" of a live performance. Hall explained his objections in responding to a proposal from Humphrey Burton to carry opera performances from Covent Garden on the BBC:[9]

> When Humphrey Burton, who is a great man of television, says that this medium can nearly capture the original experience, I must listen to him. But I don't believe it. I have never seen it happen. I have always found that the unengaged and unimpressed eye of the camera betrays and finally ridicules the essential nature of the theatre and opera...
>
> A piece of theater is not a physical act like a horse race, but an imaginative game agreed on between the performer and the audience. The camera finds difficulty in participating in this game unless it is itself the audience. If a good actor walks on to a bare rostrum and informs the audience with words of sufficient quality that they are in ancient Rome, they will believe him. An act of the imagination has been provoked. But if a camera photographs this, it will reveal nothing but a bare rostrum and the disappointing visual image can even make the words seem ludicrous. It is at this moment that we, as viewers, notice the ancient naivety of the theatre, and the "unreal" nature of its settings.

It should be noted that Hall's points were being made specifically about the direct transmission of live theatrical performances. In response to his objection, Richard Roud points out that television has its own requirements for successful presentation, and drama or opera for television must be produced with those requirements in mind. Even

granting that a televised performance cannot fully capture the experience of live theater, he argues that such loss is more than made up for by the greatly increased audience which would otherwise have no access to such experiences. Finally, he suggests that smaller, more intimate theater pieces may be more appropriate for the television screen than those which rely on spectacle, and that a certain measure of directorial discretion is called for.

Objections such as Mayer's and Hall's should be considered seriously, but it seems premature to write off television *per se* as a serious artistic medium. As we have observed above, the failures of television to fulfill its promise are largely the result of institutional arrangements, not of limitations inherent in the medium.

The BBC's *Forsyte Saga* is a good example of distinguished, if not very adventurous, drama which worked spendidly on television by adopting one of the medium's most humble genres, the soap opera. Its strength and appeal were based on the fact that it was not a movie,nor a play, but a literate, entertaining, and well-done television production.

The past few years have, in fact, seen a new wave of interest in the potential of television as an art form in its own right. Little of this work has been seen up to now on broadcast television but has been displayed on monitors set up in lofts, galleries, and museums across the country. Some of the most advanced work of this kind is being carried out at the National Center for Experiments in Television in San

Francisco. The Center has served as host for artists of all kinds - painters, sculptors, filmakers, writers, dancers, and composers - permitting them to learn the unfamiliar technology of television and participate directly in the creation of video-taped work. Perhaps the most remarkable result of the Center's research is Stephen Beck's Direct Video Synthesizer, which produces and manipulates forms, colors, and textures without the use of television cameras. It is interesting to note, in light of Mayer's concern with distractions which reduce television's impact, that the Center has become increasingly involved with creating new environments appropriate for watching their televised images. It is too early to tell whether the Center's efforts will prove to be merely an elaborate electronic dead end, but their work so far suggests that the affective, aesthetic possibilities of television have only begun to be explored.

Cultural and Documentary Programming

An area in which broadcast television has clearly demonstrated its potential as a humanistic resource has been the development of documentary programming. Television's recreations of historical events (The Andersonville Trial, You Are There ,(interpretations of new developments in science and society (60 Minutes, NET Journal),and presentations of a man's artistic and intellectual accomplishments (Civilisation) are examples of how the medium can serve to "maintain, transmit, and extend a culture."

Broadcasters are currently planning a series of programs to commemorate the coming Bicentennial Celebration and consider the meaning of the first 200 years of American history. Such programs form a small part of broadcast programming here, and a larger portion of the programming of systems like the BBC. But these programs are shown once, or twice and then are no longer available. Cable may offer not only a new forum for this kind of humanistically valuable programming, but also a means of reshowing those of more than passing interest.

Learning from Television: Classroom Instruction

If there is disagreement about television's capability to transmit the performing arts successfully, the effectiveness of television as an educational medium is well established. Five years ago, Godwin S. Chu and Wilbur Schramm published their massive survey of the literature on the subject, Learning from Television: What the Research Says. Among the many findings they report, perhaps the most important is:[10]

> "So far as we can tell from present evidence, television can be used efficiently to teach any subject matter where one-way communication will contribute to learning."

Although there are variations in the results of the studies they cite, the evidence as a whole strongly affirms television's power as an instructional tool.

Almost all of the experiences reported by Chu and Schramm involved instructional applications of television

within public school systems, the military, or universities. The failures they found were due, they concluded, not to the nature of the medium itself, but to poorly conceived and executed television lessons, or most frequently, to weaknesses in the institutional arrangements for the use of instructional television (ITV). According to Chu and Schramm, the introduction of ITV into a school system frequently meets with suspicion and resistence from teachers who feel threatened by this electronic intrusion into their classrooms. Efficient use of ITV requires careful introduction and thorough integration of its use into the curriculum. The historical results of the failure to take these requirements into account is described by Michael Molenda:[11]

> Since the mid-50's broadcast and closed-circuit television have become accepted tools of the trade from graduate schools down to the kindergarten classroom. A few public school systems (Hagerstown, Maryland, and American Samoa, for instance) have even adopted televised instruction as the backbone of the entire curriculum. Usually, though, ETV broadcasts play a supplementary role in the curriculum... The general approach has been additive-injecting TV Trigonometry into a rural high school, putting pizazz ("enrichment") into sixth-grade social studies, and other such one-shot infusions into the existing curriculum... With scattered exceptions, these programs have had little impact on the total structure of the formal educational system.

Molenda points out that cable television offers the means for making ITV much more flexible, and hence more useful, to the schools. This is well recognized by organizations such as the National Education Association and Publicable that are trying to make educators more aware of cable's potential for classroom

instruction. Indeed, ITV's future role may well depend on the willingness of educators to bring the cable into the classroom and put it to work.

Learning from Television: Outside the Classroom

Change, however, has proved to be a slow and often painful process for American educational institutions. The laments of innovation-minded educators about the difficulty of making significant reforms in the schools have become familiar. Yet, if even the more conservative estimates are correct, cable television and related technologies will grow and develop new capabilities rapidly over the next few years. We have reached the point, as James S. Coleman suggests, at which the rate of technological development is far greater than the ability of traditional educational institutions to accomodate them. He observes that a new relationship between education and technology has been established:[12]

> The communication structure of society can affect education in two quite different ways. One is through application of new communications technology in the schools... Some of these applications, potential and actual, promise to create sharp changes in the schools. It is these effects on education that technological changes in communication ordinarily bring to mind. But it has been characteristic of these applications that their promise precedes their reality by some years and that when the reality comes it never quite seems to match the expectation.
>
> The second kind of effect that the communication structure of society has on education is very different. It is through changes in communication structure outside educational institutions, powerful and pervasive changes that have unplanned and unanticipated effects

> on schools. These effects are often not recognized until after they have wrought their changes. The reality precedes the promise and is more powerful than the expectation.
>
> The indirect effects are by-products of technological change in the communication structure of society. As such, one might expect them to be less important than the effects of direct, planned introduction of new communication technology in education. This, I believe, is not so today. The indirect impact of changes in the communication structure of society has been and will be so great that the technological changes in the schools themselves must take place within the new frame that these developments create.

Whereas students used to come from information-poor home environments to information-rich schools, the home environment -- principally because of television -- is now often more rich in information than the classroom.

It seems likely that the transfer to the home - and elsewhere - of many of the learning experiences traditionally associated with the schools will continue. The movement toward non-traditional study is in part a response to this trend. The movement is based on the recognition that existing educational institutions no longer can, nor should be the only sources of legitimate educational experience in our society. New forms of study are necessary in order to extend full educational opportunity to groups not well served by present educational institutions. The University without Walls, external degree programs, credit for work experiences, and individualized learning are some of the new alternatives being explored across the country.

The imaginative use of technology, and television in particular, can be a vital component in the dissemination of new forms of learning. Sesame Street in the United States and the Open University in Britian are just two examples of new home-oriented, television-based educational services. Each has had immediate nationwide impact on the nature of education in its country, and each has spawned a number of other proposals to extend television-based learning beyond the classroom.

Television-Based Educational Services

We can learn a good deal about the effective uses of technology from past experiences in the U.S. and other countries in providing extended education via television (and in some cases, radio). While these projects differ somewhat in their objectives, they all share the common goal of reaching people who, for financial or geographical reasons, would otherwise be deprived of access to education.

---The oldest of these services is Australia's Radio Correspondence School, which has been in existence for 39 years. By means of correspondence and radio broadcasts, it provides primary education to children living in areas remote from schools. According to Professor James Gibbons of Stanford University, "anecdotal evidence indicates that children who have completed primary school by correspondence do well when they go away to a secondary boarding school."[13]

--Japan's public television system, NHK, devotes 80 per cent of one of its two channels to education. In addition to 6-1/2 hours of daytime programs for in-school use, it devotes the mornings and evenings to such subjects as "lectures on American history, industrial development, agriculture, language programs in French, English, German, Spanish, Russian, and Chinese, violin lessons, general science programs, high-school correspondence course lectures, college-level lectures, and programs for the deaf and handicapped." Enrollment in the high school correspondence program alone was estimated at 17,000 in 1971.

The educational channel also devotes 18 per cent of its time to cultural programming, while the "general" channel allots 36 per cent of its time to culture (and 32.5 per cent to news, 9 per cent to education, and only 22 per cent to entertainment). According to a recent description:[14]

> NHK spares no cost to bring first-class kabuki, noh, and bunraku productions into millions of homes in prime time. It has its own 120-member symphony orchestra, the oldest and one of the finest in Japan. To introduce foreign culture, it regularly imports award-winning scholars for invitational lecture tours which are telecast and broadcast. These have included Ralph Bunche, Werner von Braun, and last year, John Kenneth Galbraith. In addition, the network sponsors, and televises concert-hall events, such as the New York City Ballet Company (in 1960).

The NHK is funded by a monthly fee of slightly over one dollar paid voluntarily by over 99 per cent of all television set owners. Like the BBC, the strength of Japan's

public television system is based on its autonomy, assured funding, and a tradition that is as old as television in Japan. Compared with the NHK - or the BBC - the level of television service in this country seems scandalous.

--The newest television-based educational enterprise is Britain's Open University, which started in 1971. It is structured like other British universities, with a royal charter granting it the power to admit students, give examinations, hire faculty, and grant degrees. In its first year the Open University admitted 25,000 students out of 42,000 applicants. Eventually, it will reach a maximum enrollment of 34,000 students working toward B.A. degrees. The lectures televised on the BBC represent only a small portion of the time students are expected to devote to their courses; the majority of time is spent on reading, correspondence work, and tests. The Open University has set up a network of Study Centres across Britain, which are open evenings and weekends to provide counselling and tutorial classes. Students are not required, however, to use the Centres.[15]

--Since 1956 Chicago's TV College has been offering the standard two-year college curriculum leading to an A.A. degree. It offers courses via 26 hours a week of broadcasting on Chicago's public television station. According to Professor Gibbons, "Careful comparisons of the performance between TV students and campus students show that TV students learn as well or better than campus students." This corroborates one

of the major findings of the Chu and Schramm study, viz., "Voluntary home students of televised college classes tend to be more favorable toward learning by television than are the students who take these same televised courses in the classroom."

--Sesame Street differs from the foregoing examples since it is a single program, designed for pre-school children, with no responsibility for giving "credit." It is the product of Children's Television Workshop, an autonomous agency created specifically to produce the program. However, extensive evaluation has demonstrated that the program has had a strong and positive effect on millions of 3 to 5 year old children. While the program has been criticized for the narrowness of its aims and the vulgarity of its means, its remarkable impact is due to the fact that it was the first program in the history of television to combine the production techniques and entertainment values of commercial programming with serious educational content.

The success of Sesame Street has stimulated a number of new television-based educational programs in this country. Among these are:

--The Electric Company, also produced by the Children's Television Workshop. Designed to teach reading skills to children 7 to 9 years old, it began telecasting in the fall of 1971.

--Bilingual Children's Television, in Oakland, California. It has received initial funding from the U.S.

Office of Education to produce a daily television program directed primarily (though not exclusively) toward Spanish-origin pre-school children. It should begin telecasts in the fall of 1973.

--The Adult Learning Program Service (ALPS) in New York, planned by the Corporation for Public Broadcasting. The objective of ALPS is to reach the 8 million Americans who have attended but not completed high school. Initial plans call for weekly television and radio programs to "attract adults to learning" and to improve their abilities in reading and mathematics.

--The Appalachia Education Laboratory in West Virginia has proposed and subsequently tested a model for a home-based preschool education program as an alternative to kindergarten. It is designed to deal with the "persisting cultural deprivation" of rural Appalachian children by using a combination of "television broadcasts, home visitations, mobile classrooms, and other media."[16]

--An Empire State College will soon begin televising course programming in central New York State. Illinois, Massachusetts, and Nebraska are reported to be considering open university proposals.

Extended Education and the Limits of Public Television

Nearly all of these projects, as far as can be gathered from available descriptions, depend on the 223 public television stations in the United States for dissemination of their programs. Unfortunately, public television does not cover areas

containing 29 per cent of all households in the country. The problem is most serious outside the major cities: public television is not available to 41 per cent of the households in towns of less than 50,000 population, and is unavailable to over half -- 55 per cent -- of households in rural areas. Even in areas covered by public television, many of the stations broadcast only on UHF frequencies. According to a Louis Harris survey commissioned by the Corporation for Public Broadcasting, UHF broadcasting accounts for 43 per cent of households served by PTV stations; of the respondents in those areas fully 42 per cent "reported that their sets were unable to receive the UHF signal."[17] Hence a large fraction of U.S. television households are effectively excluded from public television reception.

Moreover, if projects such as those described above continue to proliferate, it is possible to foresee a point in the not-too-distant future when competition will become acute for PTV air time for extended education programming. Education programs already require large amounts of broadcast time. During the months when school is in session, instructional programming for in-school use consumes 47 per cent of the total broadcast hours of all PTV channels. In 1970, a single program, Sesame Street, accounted for nearly one fifth (18.7 per cent) of the total broadcast time (much of this was repeat showings).[18] With the addition of The

Electric Company in 1971, programming from CTW alone must have accounted for over a quarter of all PTV time.

Extended education programming will have to compete with these and other PTV programs for air time. In only a few places (e.g., New York, Boston, Chicago, and San Francisco) does PTV have access to more than a single channel. Additional UHF channels are virtually unavailable in most areas and expensive to establish and maintain even if they were.

Thus, if television is to be used in a significant way for extended, non-classroom education, and for expanded presentation of the performing arts, it may well become necessary to utilize that abundance of channels which cable television promises. Cable, of course, offers no panacea. It brings with it its own set of problems, some old, some new. It also presents opportunities for innovation which may prove to be more important in the long run than its ability to give us much more of what we already have.

THE NEW CABLE ENVIRONMENT

The current excitement over cable centers on predictions of a rapid growth in cable subscribers and new cable services. The Sloan Commission report, for example, concluded that "by the end of the decade a cable television system will be in

existence which covers 40 to 60 per cent of all American television homes." Many observers believe that this prediction of a four- to six-fold increase in cable subscribers in ten years is over-optimistic, perhaps grossly so. Yet the fact remains that cable subscribers have doubled in the past three years, and will likely double again in a few years more.

Looming in the background of all cable speculation is the vision of a wired nation, in which the cable is as ubiquitous as the telephone and as necessary a means of communication as the postal service. Behind that vision, in even dimmer outline, is a wired world with cables snaking into the villages of Africa and Asia, all linked together by microwave and satellites which span oceans, deserts, and forests.

The dangers inherent in the uncritical contemplation of such wonders have recently been pointed out by Kas Kalba in what he calls the "Cable Fable."[19] According to the fable, the development of cable technology, promoted by the know-how of American entrepreneurship, will naturally and inevitably provide us all with an array of socially, economically, and ecologically desirable services. In fact, cable television is expected to

> bring opera to Odessa, Broadway to Bayonne, adult education to Appalachia, "soul" to Watts and Bedford Stuyvesant, and sports--megahertz upon megahertz of sports--to superspectators whereever they are. The "television of abundance" will be a medium of joy as well as the "soap box" of our

> discontent...Cable television, we are told, will be able to do what UHF stations, public broadcasting, network documentaries, local specials, amateur hours and even Dick Cavett have not been able to do, namely increase the content,variety and breakdown the audience scale of television. Tropical fish hobbyists, karate enthusiasts, cerebral palsy victims, and retired musicians will each find a niche in the coaxial honeycomb. For cable television will be to network television what newsletters, community newspapers and specialty magazines are to Life, Readers Digest or Playboy.

"The difficulty with this vision," he concludes, "is that too often it obscures the conditions essential to its realization." Since we propose to consider opera, theater and adult education on the cable, it is incumbent on us to take a look at the realities of cable as it stands today and as it is likely to develop in the near future.

The FCC Rules

The FCC cable rules issued this spring ended a long period of uncertainty over cable's future and created a new regulatory context in which cable will be able to grow.[20] Although the rules are designed to permit measured growth of cable, tne thrust of much of the regulation is clearly to protect the interests of commercial broadcasters. The introduction to the rules states unmistakably that it was the Commission's basic objective "to get cable moving so that the public may receive its benefits, and to do so without jeopardizing the basic structure of over-the-air television." An attached footnote restates the Commission's belief that "the public interest is served by preserving a

healthy broadcast service" and assures us that their rule-making has been "guided by the standard of what will best serve the public interest and not by a desire to protect any industry from the impact of new technology." However, the process by which the rules were formulated does not lend credence to these statements, nor does the fact that the FCC argues that it wishes to protect the most vulnerable stations from "unfair competition," while imposing the most stringent restrictions on cable systems in the largest markets which contain the most profitable, least vulnerable stations.

The principal areas of regulation in which these protectionist concerns appear are the limitation of the distant signals cable systems may carry and the so-called "exclusivity" provisions. The effect of these regulations is to restrict substantially cable systems' ability to offer additional off-the-air programming, which has been the major selling point for CATV in the past. As a result, it seems certain that future cable growth will have to depend more heavily on providing new, non-broadcast services and programming.

Other Provisions of the FCC Rules

In other areas of regulation, the FCC has provided more positive indications of the shape of new cable systems:

1. The rules establish minimum technical standards for CATV. They also require that all new systems in the 100 largest television markets have at least a 20-channel minimum

capacity and that for every broadcast signal carried, a channel must be reserved for non-broadcast use. All new major market systems must provide, free for a five-year period, three additional channels -- one for educational use, one for municipal government, and one for public access. When all channels are being used heavily, according to the "n + 1" rule, new channels must be made available within a specified period of time. Finally, two-way capacity (but not two-way service) must be built into every new major market system.

2. The FCC outlines suggested administrative procedures for the granting of franchises, and requires that an operator obtain a "certificate of compliance" from the FCC before beginning construction. The FCC also requires that franchises be granted for not longer than 15 years, except where exceptional circumstances would justify a special waiver.

3. In an earlier ruling the Commission required that all systems with more than 3500 subscribers originate their own programming. This ruling was challenged in the courts, and this summer the Supreme Court upheld the FCC. Had the Court ruled otherwise, the validity of all the new rules would be in serious question.

4. Pay television -- that is, programs provided for an additional charge beyond that for basic cable service -- is expressly permitted in all cable systems. The FCC will hold hearings this fall as to what programs (such as certain

sports events) will not be allowed over pay-TV. The consensus of opinion since the rules were issued is that their overall effect will be to permit some cable growth, though not as fast a rate as the more optimistic observers (like the Sloan Commission) had hoped.

The Cabinet Committee Report

A very different set of regulations for cable evidently is being considered by a cabinet level committee, chaired by Clay T. Whitehead of the White House Office of Telecommunications Policy. According to a report in Broadcasting,[21] this group has concluded that "the aim of government policy... should be increased access to the medium and elimination of virtually all government control of content (except for the conventional sanctions against libel, obscenity, and incitement to riot)." To accomplish this aim, the committee reportedly is prepared to recommend legislation that would make cable television "a true common carrier, although not a public utility." The most important effect of such a change would be to separate the ownership of systems from the origination of programming.

Only after several years of deliberation and extended debate could such sweeping changes be enacted into law. But the common carrier approach is one that deserves attention by those concerned with cable's long term future. From our perspective, the central question is how would these changes affect the likelihood of using cable as a medium for the kinds

of humanistic programming we are considering. More specifically, for whom would this new scheme provide "increased access"?

Other Problems in Cable Development

Federal regulation is only one force with which cable must contend. There are a number of major obstacles which lie on the path between cable today and the wired nation of the future. These difficult and complex problems, which basically concern politics and economics, must be resolved if cable is to become - among other things - the major educational and cultural force we envision.

1. Cable's entry into the cities. Cable began developing, quite naturally, in the places where off-the-air reception was poor, or where few broadcast signals were available. The cities are where the great majority of the population is, but the cities do not offer the same ready market for cable that the more remote communities did. A 1971 survey of interest in cable in the city of Washington, the nation's ninth largest television market, demonstrates the problem. A team from Howard University found that,[22]

> even at a subscriber fee of $3.50 a month -- significantly lower than the $5 to $6 a month being charged by most cable systems now in operation - only 18% to 33% of Washington residents could be expected to subscribe to a cable system offering a conventional assortment of services such as are offered by many cable systems, but without the importation of distant signals. Subscribership would rise only slightly if two distant signals were added. Such levels of subscribership would not be

> adequate either to make the system economically viable, or to enable it to perform any significant amount of local and community service.

As indicated earlier, it is still far from clear what new services will be necessary to attract new subscribers to cable.

2. Cable Television and Rural America. Bringing cable to isolated rural American homes may prove an even greater challenge then wiring the cities. Cabling low density areas or isolated clusters of households is generally uneconomic today. As a result, the same 55 per cent of rural households not now served by public television are unlikely to be reached soon by cable. Cable is unlikely to come to sparsely populated areas in the absence of some kind of national program - a cable equivalent of the Rural Electrification Administration. Such a program may be necessary if cable is to become a significant educational and cultural resource for the whole country.

3. Industry Concentration. In its first twenty years cable television was a highly fragmented business with many small, independent system owners. Today, however, growing financial and managerial demands on the industry have led to substantial consolidation of systems under multiple system operators (MSO's). The merger trend is likely to lead to the emergence of a few cable MSO's who will dominate the industry. Cable systems in the major cities -- each requiring a capital investment of tens of millions of dollars -- will very probably be controlled by the large MSO's.

Concentration of cable ownership in a few hands brings the obvious problems of control over cable origination programming and local access. On the other hand, the large cable MSO's may provide markets for high quality programming that otherwise would be very difficult to amass. The degree to which cable system operators will be permitted to control both the sources of programming and the means of distribution is an issue that will receive widespread attention in the next few years.

4. Problems of Local Regulation and Control. While cable has become an issue of national concern, the granting of franchises and enforcement of their provisions remains largely the responsibility of municipal governments. The FCC rules leave the franchising power in local hands.

The record of local government in cable franchising, however, has been marked by failures which have seriously compromised the quality of service available to many subscribers. Much of the weakness of municipal franchise procedures can be traced to a simple lack of information. The establishment of a Cable Television Information Center, and publications like the forthcoming Rand handbook for municipal officials, will help to inform local officials about the importance of cable to their communities. A more insidious problem is the susceptibility of local officials to political pressure or outright corruption. Enough examples have come to light to indicate that such incidents are very real facts of life in cable franchising.

Stephen Barnett, in a recent article in the Notre Dame Lawyer[23] argues that "institutional weaknesses" of municipal governments make them inappropriate as the sole franchise granting authorities. Since the granting of a cable franchise is by nature a one-shot activity, municipal governments lack the experience and expertise to assure themselves optimum service. Barnett proposes that the state governments intervene to oversee or participate directly in the franchise award procedures. Several states have already established such state authorities, and a number of other states are considering such legislation.

While such authorities might improve local franchising, neither municipal nor state officials are likely to be equipped to deal with the kinds of broad, humanistic uses we are proposing here. Nor is it proper that they be concerned with the content per se of cable programming. Yet their decisions bear directly on the uses of cable which ultimately are viable.

It may be useful to sum up this overview of the present cable environment with three general propositions about cable:

1. Cable is already a big business and is on its way to becoming an even bigger business.

2. Cable today remains essentially a reception and entertainment service. To date, it has added little to the diversity (or lack of it) offered by broadcast television.

3. In order to exploit the full capabilities of cable, it will be necessary to create a new consortium of cable operators, franchising, regulatory, and policy-making officials, and groups or individuals interested in using cable to deal with their particular concerns.

Those who wish to use the cable have a responsibility not simply to make open-ended demands, but must develop a cogent and convincing case for their interests, which takes into account the realities of the cable television industry. In the final section of this paper, we will set out some of the parameters of the case for the kinds of humanistic uses of the cable we have been discussing.

ART & HUMANITIES ON THE CABLE

Creating New Content for Cable

> Our inventions are wont to be pretty toys, which distract our attention from serious things. They are but improved means to an unimproved end, an end which was already but too easy to arrive at. We are in great haste to construct a magnetic telegraph from Maine to Texas; but Maine and Texas, it may be, have nothing important to communicate.
>
> Henry David Thoreau

It is certain that cable television will continue to grow. It is equally certain that it will soon be providing

new services and greater access than broadcast television has permitted. It is by no means certain, however, that cable will actually bring about a significant change in the quality and diversity of television programming. Commercial cable operators, quite understandably, will give low priority to non-commercial, humanistic programming, if its money making potential seems low. And there is no evidence that municipally or noncommercially owned cable systems would do much better.

Having indicated the limitations of broadcast television in America for presenting cultural and educational programming, we propose that the main task of the Workshop Conference be to explore the potential of the new cable environment - with all its attendant problems - for providing such programming. In the remainder of this paper, we will consider more specifically how cable might be used effectively to present cultural and artistic programming, as well as to provide continuing education.

Broadcast vs. Cablecast Programming

The first question to be considered is the degree to which cable programming must necessarily conform to the models of programming from broadcast television. As public television producers have learned, the networks have succeeded by maximizing the entertainment value of virtually every moment of their programs. The huge audiences the networks have attracted is based in large part on careful management of the "flow" of

each day's programming and the predictability with which regular programs follow each other, day after day, week after week. The glamour and slickness of commerical television have powerfully shaped our very notions of what television is - and how we use it.

However, there is no inherent reason why programs should necessarily follow this rigid format. There is even less reason why they must do so on cable. One of the widely heralded advantages of cable is its freedom to run programs for five minutes or five hours. But will it be possible for such free-form programming to gain an audience?

In considering new uses for cable television, it must be kept in mind that the networks are unlikely to wither away in the near future. Thus, any new channels will have to compete with Flip Wilson and Archie Bunker, and with Walter Cronkite and Julia Child as well. Of course, the argument goes, cable programming will be "narrowcasting" aimed at particular audiences. Perhaps these audiences will be made up largely of those who do not watch much television today. Or is it possible to educate (or re-educate) the general public to consider television not merely as a source of entertainment, but a medium capable of providing serious artistic and intellectual experiences?

Local Programming

Another area where cable promises to offer an alternative to broadcast television is local origination. All systems with more than 3500 subscribers are now required

to produce local programming, and all new major market systems must supply three access channels free for local, non-commercial use.

The minimum costs of producing programming have decreased dramatically in recent years. It is now possible to equip a modest black-and-white television studio for under $20,000, although color facilities cost considerably more. Public access groups working in New York and elsewhere are producing inexpensive cable programming with the use of 1/2-inch portable videotape equipment.

Most communities contain amateur theatrical and musical groups, and even a few filmmakers who would be willing to have their work shown on cable. Many communities also have semi-professional groups and young aspiring professionals whose services might be obtained at relatively little expense. Colleges and universities would also seem to be rich sources of dramatic and musical performance.

But is anyone watching local programming? The Cable Information newsletter gives a sympathetic account of the recent celebration of the first year of public access in New York. While praising the "energy and resourcefulness of enterprising alternate media enthusiasts," the report admitted that there was "considerably less public awareness and participation than had been hoped for."[24] The energy with which many cable operators opposed the FCC's local origination requirement strongly suggests that they believe that local origination does not add appreciably to their subscriber base.

A large survey of cable viewing in Canada emphasizes the problem of "all cable origination that relies on amateur work":[25]

> In November, 1969, A. C. Nielson did a special study of Middlesex County, Ontario, where cable penetration exceeds 60% (80% in the county seat of London), and where the local cable companies have been offering original programs for some years. Among the results was "the fact that we were unable to find any viewing of measurable proportions to the locally programmed cable channel." A separate March 1969 survey of Metro London by the Bureau of Broadcast Measurement (contains) a tabulation of some 25,000 quarter-hours of viewing by cable subscribers which is complete to 100% without any mention of the cable company's own channel.

A later survey of cablecasting in the same area, conducted in 1971 by Benjamin D. Singer for the Canadian Department of Communications, is slightly more encouraging. While finding that cablecast participants were generally "disappointed by the very small, almost non-existent audience," he also concludes that "when a special purpose program is to be aired and is well promoted in advance... a special purpose audience will view the program and will gain definite social benefits."[26]

A few general conclusions can be drawn from these experiences about the requirements for effective use of local origination:

1. An extensive educational effort will be necessary to make people aware of the existence of non-broadcast cable programming. This would include both general information

about the availability of access to cablecasting and specific publicity for individual programs.

2. A minimum level of production standards is important to attract and hold viewer attention. Providing professional technical skills for cablecasting may be a critical factor in the success of local programming. Effective presentation will be even more important for the performing arts than for, say, a local news broadcast or a televised city council meeting.

3. The most useful cablecasting will probably be designed for well-defined, clearly identified groups within the general population. This may be particularly true for minority groups and ethnic subcultures whose particular interests have been largely excluded from broadcast television. In this regard, it is interesting to note that Robert K. Yin found significant differences in the kinds of new television programs that black and white respondents in Dayton, Ohio were interested in seeing. Fully 20 per cent more of the white respondents (80 per cent vs. 60 per cent of blacks) said that they were interested in seeing "cultural shows, emphasizing local and national museums and landmarks; while over 20 per cent more of the black respondents (73 per cent vs. 52 per cent of whites) said that they would like to see "programs just for local talent."[27] More of this kind of research is needed if local programming is actually to fulfill local needs.

4. The most immediate benefits of local originations are frequently derived by the people participating in program

production. Cablecasting has greatly expanded the opportunities for gaining experience in making television. It can serve as a kind of training ground to introduce newcomers to the medium and give them a chance to experiment with it. Experience indicates that those who have participated in cablecasting are more likely to become interested in the new medium and to work toward shaping cable's growth. Finally, for amateur musicians and actors it provides a new way to be seen and heard, free from the demands of mass-appeal, broadcast television.

Support of Local Programming

Because of the limited technical and financial resources currently available for locally originated programming, its content seems likely to remain lively and unpredictable, but of limited appeal. Its most useful functions may prove to be the delivery of vital information and social services within well-defined communities. It seems much less likely to produce programming of high artistic or intellectual calibre; such programming is simply too costly for even large systems to afford. Last year the New York City Opera Company offered TelePrompTer the rights to live transmission of its performances. Although the cost of $25,000 per performance - one million dollars for a season of 44 performances - was extremely low by broadcast standards, the price was too high for TelePrompTer.

Funds for the continuing support of local programming are hard to come by. Gifts from individuals, corporations,

and foundations can help begin experimental projects, but they are unlikely to provide continuing, core support for origination in most communities. Groups in some cities (Santa Cruz and Louisville, for example) have proposed dedicating a portion of the local franchise fee paid by the cable operator towards community origination. But the legal status of such an arrangement under the new FCC rules is very much in doubt.

Indeed, the FCC itself once considered a "Public Dividend Plan" for cable that would have appropriated 5 per cent of gross cable revenues to finance local programming. The plan would have provided assured funding, which would grow as cable systems grew, to upgrade local service. Unfortunately, the plan was discarded by the time the new rules were issued this year.

National Programming

To bring first-class professional performances to television on a regular basis will require support from a relatively large audience. This would seem to indicate the desirability of some form of national distribution. In a few years instantaneous networking of cable systems will be possible by means of a domestic satellite system. There has already been some syndication of cable programming, particularly in programming shared among the systems of the larger MSO's. The trend towards industry consolidation should encourage additional national syndication of original programs for cable.

51

The key question, once again, is how will such programming be paid for? Among the possibilities are:

1. Direct support by cable operators. Some cable operators have been willing to support quality programming on a limited scale. However, cable operators are in the business of selling cable subscriptions, not providing "free" programming to their customers. While operators may finance occasional outstanding programs to attract subscribers or for the sake of public relations, it is unrealistic to count on voluntary industry support on a long-term basis.

2. Gifts and Grants. Foundations (such as Ford) and government agencies (such as the state arts councils or the National Endowments for the Arts and the Humanities) might be induced to support cultural and artistic programming on cable as they have supported public television and live performances. Of course, cable will be in competition with all other groups for limited funds, but its freedom of presentation combined with its potential reach to new audiences may prove to be an attractive alternative.

3. Advertising. The FCC rules permit commercial advertising on all but cable's dedicated public service channels, altnough it is restricted to "natural breaks" in events and performances. While advertising revenue is not very significant on cable now, it was equally unimportant in the early days of radio and television. It may prove a more significant source of income as cable audiences grow.

But if advertising on cable should prove important, it could well bring the same baleful economic influences to bear on cable programming and scheduling which have come to dominate broadcast commercial television.

4. Pay cable. The idea of pay television has been around for many years, but due to strong opposition from a number of sources has never proved successful. Cable television provides a new opportunity for pay television by offering channels or programs for which a charge can be made in addition to that for "basic" reception service. Cable is advantageous for such a scheme because of its ability to transmit programs selectively and monitor the use of pay channels for billing purposes.

Professor Richard Posner of the University of Chicago School of Law has argued that pay cable may be the only means of achieving genuine diversity of programming on cable. Pointing out the current under-utilization of the UHF spectrum, he asserts that the simple availability of channels will not in itself produce a greater choice of programming. Since advertising revenues are finite, they are spent on the media which reach the largest number of people at the lowest cost. Thus, "the more channels there are, the smaller the audience for each, and the less likely that advertising revenues will be sufficient to cover programming costs for all of the channels."

A genuine alternative to the economic structure of commercial television would be provided by a system which permits viewers to pay directly for the programs they want to

see. The most damaging argument against pay television has been that it would "siphon" off programming from "free" television to pay television. Posner replies,[28]

> What is likely is not that pay television will result in viewers' paying to see the identical fare that they now see for nothing, but that it will enable viewers to purchase programs that they cannot now obtain on any terms. The opera that costs $400,000 to produce but has a potential nationwide television audience of only one million cannot be broadcast on commercial television because advertisers will not pay for air time at the rate of 40¢ per viewer. In a system of pay television, it might well be broadcast. Each viewer who paid 40¢ to see the opera would not be paying for something that, in the absence of pay television, he would have seen for nothing. The alternative of seeing the opera for nothing is not open to him.
>
> The principal effect of pay television, I surmise, will not be to force viewers to substitute a pay for a free service; it will be to enable them to substitute television programs for other goods that they value less.

The outcome of his argument is the recommendation that "pay television be permitted to develop without restriction on the cable." The Aspen Workshop has commissioned Professor Posner to write a paper exploring in greater detail the impact of pay cable on educational, cultural, and artistic programming. His study is expected to include consideration of the effects of pay cable on public television programming, the prospects of support for the performing arts through pay cable revenues, and initial estimates of the financial significance of pay cable.

Improving the Technical Quality of Television Reception

A final question in regard to bringing the arts to television is the extent to which the visual and audio quality of television reception can be improved on cable. There are many who say that artistic and cultural television programming will never be successful with present reception standards. The audio performance of most television receivers is particularly poor -- today's sets have a dynamic audio range far below that available on phonograph records or fm broadcasts. Thus, symphony and opera performances on television may not satisfy even undemanding audiences under the present state-of-the-art.

It is simple enough to upgrade audio reception on television by adding high quality components and speakers (at a higher cost, of course) to present receivers. Improving visual quality is not so easy. A number of technical approaches exist for increasing picture resolution and enhancing visual signal quality -- approaches that could lead to wall-size television screens within a decade. Cable has the frequency bandwidth to carry high-resolution television signals. But these schemes would require a new set of technical standards and a full re-design of television receivers to accomodate high resolution pictures.

The new FCC rules for cable establish reception quality standards so minimal that they fall well below the level available off-the-air in most communities. Yet cable does offer

the opportunity -- perhaps the only opportunity in this country -- to develop a high resolution, high quality television service that would complement present reception standards. Developing such new systems may be a necessary condition for developing high quality artistic and cultural programming on the cable.

CONTINUING EDUCATION ON THE CABLE

Educational vs. Educative Programming

In the early days of broadcasting in England, Lord Reith, the first director of the BBC, drew a useful distinction between two kinds of programming: "educational" programming, which involves a systematic attempt to convey a coherent body of information, and which requires active participation on the part of the audience; and "educative" programming, which is more casual and contributes to "making life more interesting and enjoyable than it would otherwise be." Both kinds of programming, he felt, were valuable and necessary parts of a broadcaster's responsibility, but he also believed that the difference between them should be clearly understood. John Scupham, a former director of the BBC's educational services, elaborates further on the distinction:[29]

> There is one sense in which one learns by leaning over bridges and watching the water flow, by falling in love, listening

> to Beethoven and watching the news; a diffuse process like the growth of a coral reef on which each hardly perceptible deposit leaves where it can a trace that will be reinforced by later deposits so that the whole reef grows in conformity with its underlying structure. There is another sense, in which learning implies purpose and constructive effort. They may be a customary looseness about the common uses of tne words "learning" and "education" - there is far less about the word "teaching". Educational broadcasting implies a relationship between teachers and learners in raising a new building on known foundations.

While many different kinds of programming may be classified as educative, the criteria for effective educational programming can be stated with more precision. Such programs:

1. Are addressed to a specific audience, whose characteristics are known. According to Scupham, "a defined audience need not be a narrow one, but the closer the definition and the narrower the focus, the more effective the programmes are likely to be."

2. Are designed to help the audience to achieve "progressive mastery of some skills or body of knowledge."

3. Require reading or written work to supplement viewing of the televised material. Such a requirement obviously demands a greater degree of commitment from viewers than they normally give to television programs.

4. Make provision for feedback from participants in order to evaluate effectiveness of the programs.

According to these criteria, Civilisation, 60 Minutes, and National Geographic Specials would be educative; the

programming of the Open University and Chicago's TV College would be educational.

Public Television Programming

On American Public Television, programming also divides into similar categories, though differently labelled. We call most educational programming "instructional television"; almost all of it designed, paid for, and used by the public school systems. Educative programming is usually thought of as cultural - and consists of PTV's evening programs intended for "general" audiences. Very, very little of public television's non-school programming can be classified as education, as we have defined it. Sesame Street is an interesting hybrid, a program which has quite specific educational goals and built-in feedback, but is free of the "seriousness" and dullness which stigmatizes most instructional television. It also is intended to be viewed primarily outside the classroom.

Recognizing the importance of this program, FCC Commissioner Nicholas Johnson has called for "a Sesame Street for adults."[30] Just what such a program or programs would teach is not clear; part of the broad success of Sesame Street is based on the fact that all 3-year old children are more alike than they are different from one another, and all of them need to learn the alphabet and counting. However, the intention behind Commissioner Johnson's suggestion is a good one: to create a program which would dramatically

demonstrate television's ability to make learning palatable and reach into the homes of millions of Americans.

Plan for Continuing Education on Cable

As we have indicated earlier, a number of proposals have been made recently for new television-based programs for extended education. The success of Britain's Open University, for example, seems likely to encourage similar enterprises here. Many of these involve the use of television by degree-granting colleges and universities to enlarge their student bodies. In some cases, existing institutions may put their courses on television (as with Chicago's TV College), in others new media-oriented institutions may be created (like New York's Empire State College).

The coming of cable offers these institutions new opportunities for access to the medium and the possibility of programming instruction on multiple channels simultaneously. A number of colleges have already used cable on campus and for community programming,[31] and many others are contemplating its use. Stanford University, for example, is planning for a "wired campus" that would interconnect with cable systems in neighboring communities. This fall, the Council of Deans of the University of California Extension Services will for the first time consider cable use for their programs. Eventually, the two-way capacity of

cable may be used to develop interactive teaching systems, but widespread application of two-way television still seems a decade away.

Lifelong Learning - Another Approach

All the above programs share in common the extension of standard, institutional curricula to television. This does not seem to be what Commissioner Johnson had in mind. The difference between these programs and his proposal might be compared to the difference between the television presentation of a performance direct from a theater or concert hall, and a performance produced expressly for television, with attention given to the peculiar demands of the medium in the design of the program. Surely there is a place for both approaches: the former is done more easily and at lower cost, and exploits television's ability to "take us there"; the latter, while more time consuming and expensive, is more likely to attract and hold a larger audience, and exploits the nature of television's "little screen."

In a review of educational applications of cable, Michael Molenda of the University of North Carolina School of Education proposes a scheme for cable-based education which expands on Commissioner Johnson's suggestion:[32]

> Perhaps the greatest social benefit CATV could offer would be to serve as an alternative to the institutionalized education system. By removing the educators as gatekeepers the cable complex of the future might become more responsive to the learning needs of individual users rather than to the

> dictated requirements of certifying agencies. Not only could unemployed workers receive vocational training without the social stigma attached to attendance at special schools, and dropouts have a second chance at acquiring basic skills without returning to the institutions that had already branded them as failures, but minority groups could tune in to specialized programs not otherwise provided by the majority-oriented mass media. Physicians, lawyers, teachers, and other professionals could share information among their peers without having it all packaged as graduate courses supervised by the local university. Unlike the finite broadcast spectrum, the cable has channels for all these purposes and more.
>
> One can imagine a complete pre-kindergarten through post-graduate alternative learning system based around CATV and other community social agencies. The bottom rungs of such a system already exist in the form of Sesame Street and The Electric Company.

Such a system would represent truly humanistic programming and would make a significant contribution to solving a number of the social problems which cable is supposed to solve. It would also have a number of other advantages: It could freely mix educational with educative (and entertaining programs). It could bring together educators and television producers as equal partners in producing attractive, engaging programs of serious educational value. It would also have a crucial responsibility to set well-defined objectives for its programming and monitor its effectiveness through built-in feedback mechanisms. The two-way capacity of cable eventually may provide the means not only for new forms of dialogue between teacher and students, but also for obtaining

almost instantaneous feedback that can be used to modify the program as it goes along.

Television and Humanistic Education

The applications of technology to education (instructional television, computer-assisted instruction, etc.) have proved most successful in subject areas in which material to be taught can be broken down into discrete units and for which goals can be defined in precise behavioral terms. Consequently, subjects like mathematics, economics, the sciences and engineering - for which questions can be posed which have "right" answers - tend to be the most readily adaptable.

But what of the affective areas of education? Can television be used to teach an appreciation of literature as well as the skill of reading? Can it convey a sense of history as well as a knowledge of dates and events? Can it instill a sense of meaning and value to the information it transmits so powerfully? As Charles Silberman has pointed out, "our most pressing problem is not how to increase the efficiency of education; it is how to create and maintain a more humane society." It cable television is to provide a genuine alternative to the traditional education in the schools, it must do more than simply transfer the locus of learning from the classroom to the home.

Who Will Produce the Programming?

If cable-based education is not to be centered in the schools, how would such programming be produced? A number of

possibilities exist:

--Public television stations have accumulated considerable experience in producing and distributing educational programs. A numer of people within the public television establishment have given serious thought to PTV's educational role in the new cable environment. Producing educational programming for cable and promoting and monitoring the consumption of programs on the local level could be logical functions for the PTV network of over 200 stations.

--An autonomous production agency like Children's Television Workshop provides a successful model of a creative partnership between educators and producers. It also provides a precedent for the use of formative research in program design and the importance of on-going evaluation. A number of such institutions might be created to produce a spectrum of programs for various audiences.

--School systems, colleges, and universities clearly are interested in learning outside the classroom. Whether existing educational institutions should coordinate or control educational programming for cable is another matter. Yet, these institutions will continue to be essential sources of personnel and research. At the very least, they should be encouraged to share their most successful instructional programs on an educational cable network.

--Libraries, museums, and other storehouses of knowledge are important sources of material. As humanistic institutions, they may want to play a larger role in

organizing knowledge for educational programming on cable. Ultimately, direct retrieval of library resources via two-way cable service may become a central component in home-based education.

--An overall agency, something like the Corporation for Public Broadcasting, might be created to provide administrative services to coordinate the system's components, seek funding, and "sponsor" new programs.

Obviously, the outlines of such an alternative, cable-based educational system are still far from clear. Once again, the difficult questions of funding must be faced. Clearly, significant governmental contributions will be necessary if educational programming is to be produced on a large scale. The other sources of funding described in the discussion of the performing arts (foundation support, a tax on cable revenues, even advertising) will need to be explored. In addition, the existing institutions of education may see fit to contribute to increasing access to their resources. Ultimately, direct consumer support for educational course programming by means of pay cable may be a major source of revenue.

We should also ask how elaborate a system is necessary to promote the use of cable television for continuing education: Is a single corporate entity to create such a system desirable, or would a coalition of interested parties be more likely to serve a diversity of needs and interests?

Whatever the ultimate form such programs take, the responsibility of television as an educational and cultural force is inescapable. Television systems abroad, and isolated examples of outstanding humanistic programming here have proved the medium's value. As a whole, however, broadcast television in this country has not adequately met its obligations to the society it is supposed to serve. If we wish to avoid bring the same charge against cable television in the years hence, we must begin planning now how to assure a continuing reliable claim for humanistic uses of the cable.

FOOTNOTES

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31. See Leland L. Johnson, Cable Television and Higher Education: Two Contrasting Experiences. Rand Report R-828-MF, September, 1971.

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